DOCUMENT RESUME

ED 360 123 RC 019 230

AUTHOR Foster, John
TITLE Isomorphism: Many Paths, One Activity.
PUB DATE Apr 93
NOTE 10p.; Paper presented at the Annual Rocky Mountain Regional Conference of the Association for Experiential Education (5th, Boulder, CO, April 23-25, 1993).
PUB TYPE Speeches/Conference Papers (150) -- Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adventure Education; Elementary Secondary Education; *Experiential Learning; Group Activities; *Group Dynamics; *Instructional Development; *Learning Theories; Teaching Methods; *Transfer of Training
IDENTIFIERS *Isomorphism

ABSTRACT

The creation of isomorphic activities can be accomplished when an instructor with a broad repertoire of activities applies a clear definition of purpose to a strong understanding of the clients involved. Experiential education is based on the use of experience to increase human potential. In order to capitalize on specific behaviors for focused training, experiential education often uses a simulated environment of experience, rather than "real-life" experience. The identification and linkage of similar attributes of a modeled experience with attributes in a real experience is called "isomorphism." The key to positive growth or behavior modification is in the transfer of learning from the simulated environment to future real-life behaviors. Transfer can take place at a specific, nonspecific, or metaphoric level. Many significant aspects of learning and intelligence theories apply to experiential education, including: (1) Piaget's theory of cognitive development (assimilation and accommodation); (2) Maslow's hierarchy of need (basic needs of participants); and (3) Bloom's taxonomy of cognition (level of complexity of an experience). The Tuckman model of group development is also useful in creating a learning experience based on patterns of group behaviors. Michael Glass has identified steps in the creation of isomorphic experiences that are helpful to instructors. (KS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED360123

Isomorphism: Many Paths, One Activity

John Foster, Education Resource Network

April 23-25, 1993

The 5th Annual Rocky Mountain Regional Conference of the Association for Experiential Education

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

John R. Foster

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative... some experiences are miseducative... Everything depends upon the quality of the experience which is had. --John Dewey

Experience defined

Experiential Education is based on the use of experience to increase human potential. *Experience* can be defined as an aggregate of all available information to an individual at one point in time, which includes sensory data, personal history, emotive state, and rational thought.

Experiential learning involves the preparation for, participation in, and recording of an experience (what), personal reflection on that experience (so what), and the planning for future application of that learning (now what).[1] *Experiential education* provides individuals with a structured process in which to test and discover new ideas and behaviors with objective facilitation toward specific growth objectives.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

RC 019230

BEST COPY AVAILABLE

In order to capitalize on specific behaviors for focused training, experiential education often uses a simulated environment of experience, rather than "real-life" experience. While reality can always be appropriate for experiential learning, *models* of reality are more focused and provide a greater degree of safety when behavior modification or specific content knowledge are goals of training.

The connection between the participant and the design of an experience works in principle the way a picture frame brings an art viewer's attention to the work of art. The process of *framing* brings a student to focus on specific behaviors to "study" in the modeled experience; and more importantly, the participant is prepared to *experience* a change *during* the model.

For an experience to have practical value to participants, it must challenge the same processes they would use in a "real" situation. The identification and linkage of similar attributes of a modeled experience with attributes in a real experience is called *isomorphism* (from the roots *iso* = similar & *morph* = shape). An experience with strong correlation to reality can be considered a useful model based on those similarities.

Once the appropriate experience model is created, the key to positive growth or behavior modification is in the *transfer of learning* from the simulated environment to future real-life behaviors. Transfer can take place at three different levels: specific, nonspecific, and metaphoric.[2]

Isomorphism

Transfer of learning occurs when the learner actually changes behavior based on a previous experience.

Specific transfer occurs when the actual products of learning, such as a new skill, are generalized into habits and associations so that use of the new skills is applied in other situations.

example: *Learning and practicing listening skills applies directly to future situations requiring listening.*

Nonspecific transfer occurs when new processes of learning are generalized into attitudes and principles for use by the learner in future experiences.

example: *Participating in a successful cooperative group activity provides the learner the basis for evaluating a team approach vs. an individual approach in a similar future situation.*

Metaphor allows distance from reality, which helps reduce anxiety and defensiveness towards change.

Metaphoric transfer occurs when an individual makes symbolic comparisons between a modeled experience and real situation. With a high level of safety in the model, participants are less defensive to functional change of behaviors of the application of new skills, so they can experiment more freely with new options..

example: *A person participating in the wall initiative makes a personal connection between the 12' wooden structure and a difficulty in discussing a serious issue with a co-worker.*

Experience does not err, it is only your judgment that errs in promising itself results which are not caused by your experiments.

-- Leonardo Da Vinci

Cognition & Development

There are many significant aspects of learning and intelligence theories which apply to experiential education, since each individual must at some point incorporate the new experience into her life using cognitive and developmental functions.

It is widely accepted that people learn or grow in stages of development, which can be identified by patterns and characteristics common at each stage. Jean Piaget's theory of cognitive development identifies two processes in the achievement of new developmental stages or "schemas". These processes are: *assimilation* and *accommodation*.[3]

Experiential Education can accelerate the development of schemas by providing focus on specific issues.

People develop schemas as strategies to interact with their environment based on their experiences; and then as new information is encountered, they must either incorporate it into a current schema (assimilation) or create a new schema to fit the new experiences (accommodation).

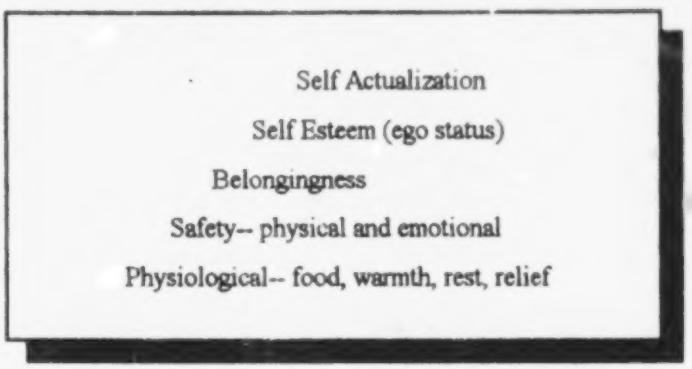
There are two models of human development which are useful in the creation of effective experiences: Maslow's Hierarchy of Need and Bloom's Taxonomy of Cognition. These two models provide an instructor with patterns of behavior to identify in individuals which assist in the process of activity selection and customization.

Dynamic Assessment

With an awareness of Maslow's Hierarchy an instructor can recognize basic needs of participants and provide appropriate structure in an experience.

example: *Individuals in a group are distant and self-concious so an instructor selects an activity with low physical contact, insured random mixing, and high energy to alleviate the responsibilities of individuals to "risk" social jeopardy.*

Maslow's Hierarchy of Need



In Bloom's Taxonomy, an instructor finds a "map" to processing which can guide the level of complexity, depth of discussion, and level of transfer to build into an experience.

example: *The Human Knot initiative can be used early in an activity progression with participants to teach content issues of group functioning or later in a progression to provide stimulus for analysis of relationships in groups; depending on the cognitive abilities of the group members.*

Bloom's Taxonomy (with leading question keys)[4]

Knowledge (memory)	Comprehension (understanding)	Application (simple usage)	Analysis (relationship)	Synthesis (creative)	Evaluation (opinion)
when	summarize	how could	reason why	create	judge
what	tell why	classify	steps involved	suppose	conclude
where	compare	demonstrate	list problems	imagine	argue
list	explain	search for	specify	devise	is it good
name	discuss	choose	conclude	form a new	predict
how many	express	interpret	criticize	how many ways	assess

To choose to become involved with other people is to choose to confront yourself with a different reality.

-- Jane Watkins

Group Dynamics

Much of Experiential Education happens in the context of groups, which is only appropriate since much of real life happens in the context of groups. Understanding patterns of group behavior is equally as important as the preceding information on individuals.

The Tuckman model of group development provides a convenient set of patterns for an instructor when creating a learning experience. Based on simple assessment activities and critical observation of individuals among the group, interpersonal behaviors can be identified and "labeled" according to the model. Based on these labels, appropriate activities can be implemented.

Not every group fits exactly into these stages, and rarely does a group remain at one stage indefinately; however the stages serve as general "mile markers" to establish progress towards functional behavior in a group setting.

The Tuckman Model Revisited[5]

	Identifiers	Activity Needs
FORM	dyads, triads silliness, testing	active, fast paced and good mixing
STORM	confrontation, anger polarization	challenge, space, feedback time, patience, support
NORM	honesty, boundaries established	slow, personal, flexible, relaxed
PERFORM	acceptance, celebration of diversity, empowered	challenge, success flexibility, space
ADJOURN	solos, dyads, removal from tasks, sadness	structure reflection, goal setting, planning

The ultimate measure of man is not where he stands in moments of comfort and convenience, but where he stands during challenge and controversy.
-- Martin Luther King, Jr.

Isomorphic Creativity

The creation of isomorphic activities can be accomplished when an instructor with a broad repertoire of activities applies a clear definition of purpose to a strong understanding of the clients involved. The definition of purpose allows the instructor to make difficult choices on when to provide more or less structure in an experience, and the understanding of the clients allows the structure to have relevance.

Michael Gass has identified steps in the creation of isomorphic experiences as follows:[6]

1. State and rank specific goals based on the needs of the client.
2. Select an activity which exhibits a strong metaphoric relationship with the goals.
3. Strengthen the isomorphic framework with specific language and features familiar to the clients.
4. Review client motivation to insure a compelling motivation for investment by the client.
5. Conduct the experience, adapting to highlight isomorphic structures.
6. Debrief the activity with focus on the positive attributes of performance and potential integration of functional change in the participants' lifestyles.

Sources

[1] Kraft, R. & Sakofs, M. (1987). The Theory of Experiential Education Boulder, CO: The Association for Experiential Education.

[2] Gass, M. (1991). Enhancing Metaphor Development in Adventure Therapy Programs. The Journal of Experiential Education. 14(2), 6-13.

[3] Joyce, B., Weil, M., & Showers, B. (1992). Models of Teaching (fourth edition) Boston: Simon and Schuster, Inc.

[4] Adventure Experiences, Inc. (1991) Challenge Course Manual.

[5] Tuckman, B.W. & Jenson, M. (1977). Stages of Small-Group Development Revisited. Group and Organization Studies, 419-26.

[6] Gass (1991).